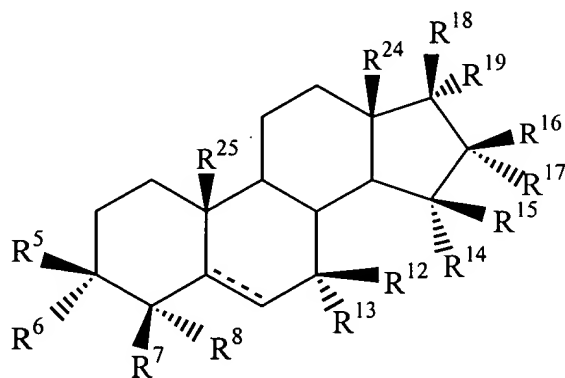


### AMENDMENTS TO THE CLAIMS

This listing of claims replaces any prior version of the claims in the application.

5           Claims 1-32 (cancelled).

33 (withdrawn): A pharmaceutical composition comprising at least one compound of the following structure



10           wherein R<sup>5</sup> and R<sup>6</sup> are each independently selected from the group consisting of OC(O)OCH<sub>3</sub>, -OH, -SH, -NH<sub>2</sub>, -OSO<sub>3</sub>H, -OPO<sub>3</sub>H, an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a nucleoside, a nucleotide, an oligonucleotide, a polymer, provided that at least one of R<sup>7</sup> and R<sup>8</sup>  
15           are OC(O)OCH<sub>3</sub>;  
20

          wherein R<sup>7</sup>, R<sup>8</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup> and R<sup>19</sup> are each independently selected from the group consisting of -H, -OH, -SH, -NH<sub>2</sub>, -OSO<sub>3</sub>H, -OPO<sub>3</sub>H, an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether,

an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a nucleoside, a nucleotide, an oligonucleotide, a polymer and  $R^7$  and  $R^8$  together,  $R^{12}$  and  $R^{13}$  together,  $R^{14}$  and  $R^{15}$  together,  $R^{16}$  and  $R^{17}$  together, and  $R^{18}$  and  $R^{19}$  together independently form a double bond to a moiety selected from the group consisting of  $=O$ ,  $=S$ ,  $=CH_2$  and  $=NOH$ , provided that only one each of  $R^{12}$  and  $R^{13}$  or  $R^{18}$  and  $R^{19}$  can independently be H;

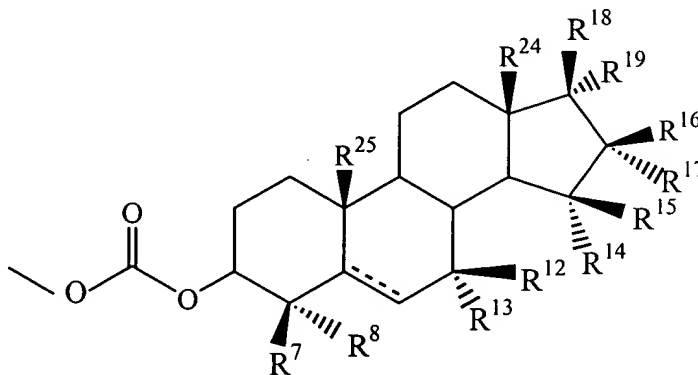
wherein  $R^{24}$  and  $R^{25}$  are either H or  $CH_3$ ;

wherein the dotted line is an optional double bond;

wherein the  $OC(O)OCH_3$  at the 3 position is in either the  $\alpha$  or  $\beta$  configuration;

and a pharmaceutically acceptable excipient.

34 (withdrawn): The pharmaceutical composition of claim 33, wherein said at least one compound has the following structure

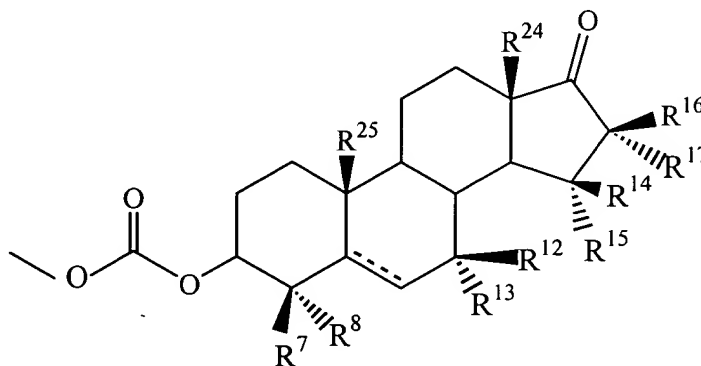


wherein  $R^7$ ,  $R^8$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$  and  $R^{19}$  are each independently selected from the group consisting of  $-H$ ,  $-OH$ ,  $-SH$ ,  $-NH_2$ ,  $-OSO_3H$ ,  $-OPO_3H$ , an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally

substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a  
5 nucleoside, a nucleotide, an oligonucleotide, a polymer and  $R^7$  and  $R^8$  together,  $R^{12}$  and  $R^{13}$  together,  $R^{14}$  and  $R^{15}$  together,  $R^{16}$  and  $R^{17}$  together, and  $R^{18}$  and  $R^{19}$  together independently form a double bond to a moiety selected from the group consisting of  $=O$ ,  $=S$ ,  $=CH_2$  and  $=NOH$ , provided that only one each of  $R^{12}$  and  $R^{13}$  or  $R^{18}$  and  $R^{19}$  can independently be H;

10 wherein  $R^{24}$  and  $R^{25}$  are either H or  $CH_3$ ;  
wherein the dotted line is an optional double bond;  
wherein the  $OC(O)OCH_3$  at the 3 position is in either the  $\alpha$  or  $\beta$  configuration; and a pharmaceutically acceptable excipient.

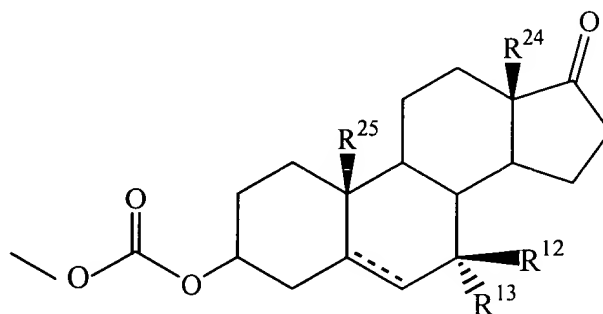
15 35 (withdrawn): The pharmaceutical composition of claim 34, wherein said at least one compound has the following structure



wherein  $R^7$ ,  $R^8$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$  and  $R^{17}$  are each independently selected from the group consisting of -H, -OH, -SH, - $NH_2$ , - $OSO_3H$ , - $OPO_3H$ , an ester, a  
20 phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle,

an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a nucleoside, a nucleotide, an oligonucleotide, a polymer and  $R^7$  and  $R^8$  together,  $R^{12}$  and  $R^{13}$  together,  $R^{14}$  and  $R^{15}$  together, and  $R^{16}$  and  $R^{17}$  together independently form a double bond to a moiety selected from the group consisting of  $=O$ ,  $=S$ ,  $=CH_2$  and  $=NOH$ , provided that only one of each of  $R^{12}$  and  $R^{13}$  can independently be H; wherein  $R^{24}$  and  $R^{25}$  are either H or  $CH_3$ ; wherein the dotted line is an optional double bond; wherein the  $OC(O)OCH_3$  at the 3 position is in either the  $\alpha$  or  $\beta$  configuration; and a pharmaceutically acceptable excipient.

36 (withdrawn): The pharmaceutical composition of claim 35, wherein said at least one compound has the following structure



wherein  $R^{12}$  and  $R^{13}$  are each independently selected from the group consisting of -H, -OH, -SH, - $NH_2$ , - $OSO_3H$ , - $OPO_3H$ , an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a nucleoside, a nucleotide, an oligonucleotide, a polymer and  $R^{12}$  and  $R^{13}$  together form a double

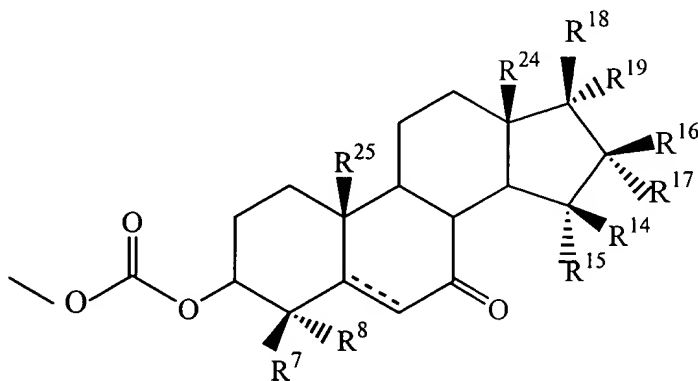
bond to a moiety selected from the group consisting of =O, =S, =CH<sub>2</sub> and =NOH, provided that only one of R<sup>12</sup> and R<sup>13</sup> is H;

wherein R<sup>24</sup> and R<sup>25</sup> are either H or CH<sub>3</sub>;

wherein the dotted line is an optional double bond;

- 5 wherein the OC(O)OCH<sub>3</sub> at the 3 position is in either the α or β configuration; and a pharmaceutically acceptable excipient.

37 (withdrawn): The pharmaceutical composition of claim 34, wherein said at least one compound has the following structure



10 wherein R<sup>7</sup>, R<sup>8</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup> and R<sup>19</sup> are each independently selected from the group consisting of -H, -OH, -SH, -NH<sub>2</sub>, -OSO<sub>3</sub>H, -OPO<sub>3</sub>H, an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl  
15 group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a  
20 nucleoside, a nucleotide, an oligonucleotide, a polymer and R<sup>7</sup> and R<sup>8</sup> together, R<sup>14</sup> and R<sup>15</sup> together, R<sup>16</sup> and R<sup>17</sup> together, and R<sup>18</sup> and R<sup>19</sup> together independently form a double bond to a moiety selected from the group consisting of =O, =S, =CH<sub>2</sub> and =NOH, provided that only one of each of R<sup>18</sup> and R<sup>19</sup> can be H;

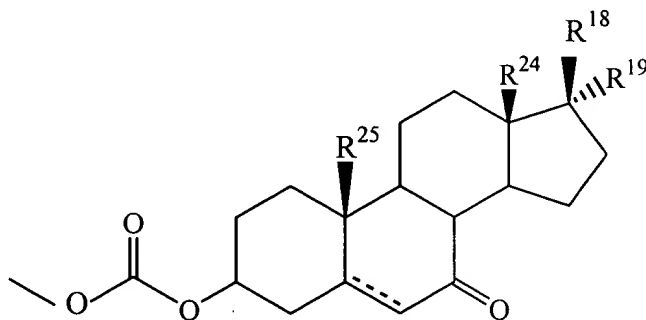
wherein  $R^{24}$  and  $R^{25}$  are either H or  $CH_3$ ;

wherein the dotted line is an optional double bond;

wherein the  $OC(O)OCH_3$  at the 3 position is in either the  $\alpha$  or  $\beta$  configuration; and a pharmaceutically acceptable excipient.

5

38 (withdrawn): The pharmaceutical composition of claim 37, wherein said at least one compound has the following structure



wherein  $R^{18}$  and  $R^{19}$  are each independently selected from the group

10 consisting of -H, -OH, -SH, -NH<sub>2</sub>, -OSO<sub>3</sub>H, -OPO<sub>3</sub>H, an ester, a phosphoester, a phosphonoester, a sulfite ester, a sulfate ester, a thioester, an amide, a sulfonamide, an amino acid, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, an  
15 optionally substituted aryl moiety, an optionally substituted heterocycle, an optionally substituted heteroaryl moiety, an optionally substituted monosaccharide, an optionally substituted oligosaccharide, a nucleoside, a nucleotide, an oligonucleotide, a polymer and  $R^{18}$  and  $R^{19}$  together form a double bond to a moiety selected from the group consisting of =O, =S, =CH<sub>2</sub> and =NOH,  
20 provided that only one of  $R^{18}$  and  $R^{19}$  is -H;

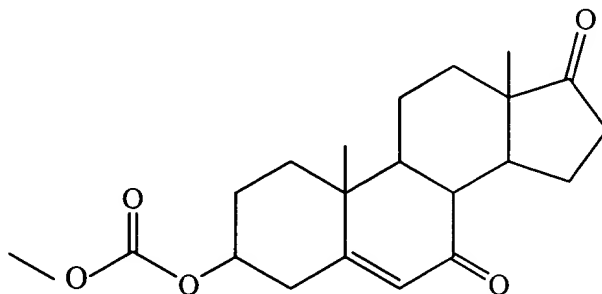
wherein  $R^{24}$  and  $R^{25}$  are either H or  $CH_3$ ;

wherein the dotted line is an optional double bond;

wherein the -OC(O)OCH<sub>3</sub> at the 3 position is in either the  $\alpha$  or  $\beta$  configuration; and a pharmaceutically acceptable excipient.

25

39 (withdrawn): The pharmaceutical composition of claim 34, wherein said at least one compound has the following structure



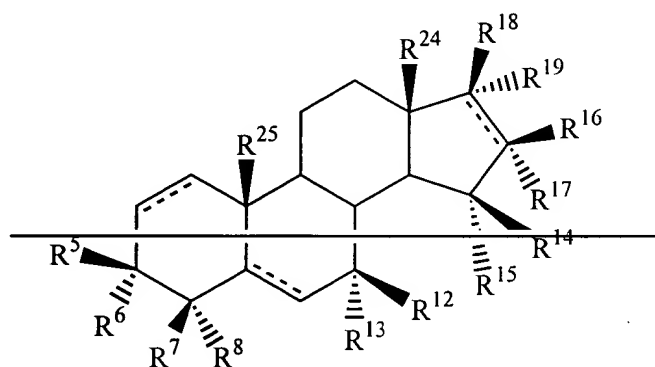
and a pharmaceutically acceptable excipient.

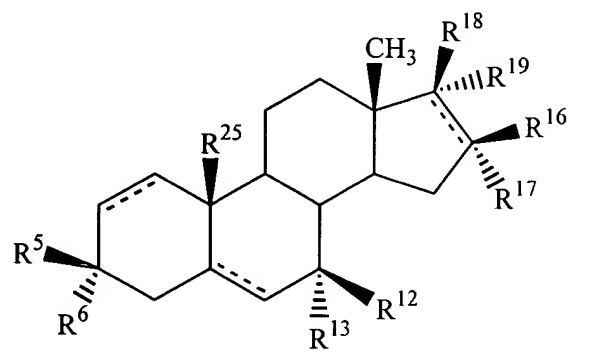
5

Claims 40-55 (cancelled).

Claim 56. (currently amended): A method to treat an androgen responsive disease prostate cancer or androgen responsive benign prostatic hyperplasia in a subject, or to ameliorate one or more symptoms thereof, comprising administering to the subject, or delivering to the subject's tissues an effective amount of ~~a formulation comprising one or more excipients and~~ a compound having the structure

10





wherein,

$R^5$  and  $R^6$  independently are -H,  $-OR^{PR}$ ,  $-SR^{PR}$ ,  $-N(R^{PR})_2$ , an ester,  $-NH-C(O)-C1-50$  organic moiety, an amino acid, a peptide, an ether, a thioether, a carbonate, a carbamate, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, a monosaccharide, an oligosaccharide or a polymer, a monosaccharide or an oligosaccharide, provided that at least one of  $R^5$  and  $R^6$  is a carbonate  $R^5$  or  $R^6$  is a carbonate;

$R^7, R^8, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}$  and  $R^{17}$  together  $R^{12}, R^{13}, R^{16}$  and  $R^{17}$  together or each independently are -H,  $-OR^{PR}$ ,  $-SR^{PR}$ ,  $-N(R^{PR})_2$ ,  $-OSO_3H$ ,  $-OPO_3H$ ,  $=O$ ,  $=S$ ,  $=CH_2$ ,  $=NOH$ , an ester, an amide, an amino acid, a peptide, an ether, a thioether, an acyl group, a carbonate, a carbamate, a sulfonamide, a halogen, an optionally substituted alkyl group, an optionally substituted alkenyl group or an optionally substituted alkynyl group; and

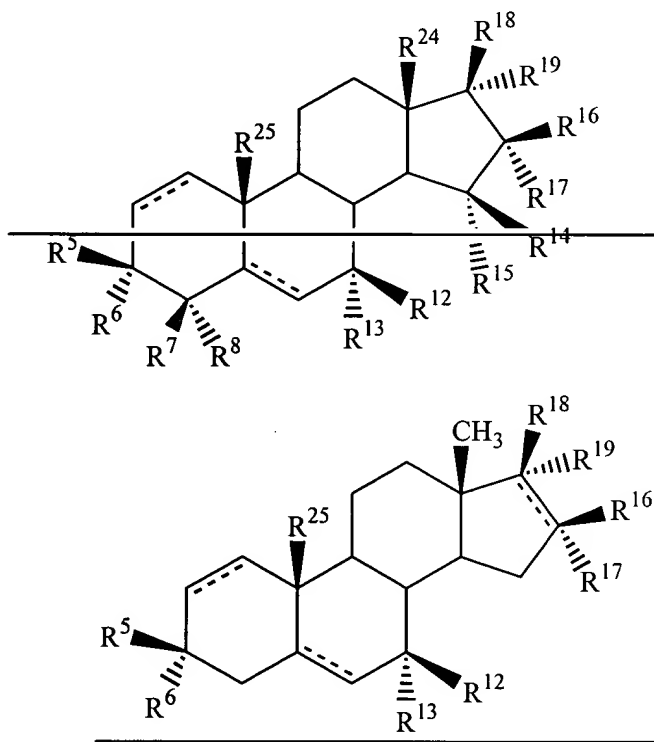
$R^{18}$  and  $R^{19}$  together or each independently are -H,  $-OR^{PR}$ ,  $-SR^{PR}$ ,  $-N(R^{PR})_2$ ,  $=O$ ,  $=S$ ,  $=CH_2$ ,  $=NOH$ , an ester,  $-NH-C(O)-C1-50$  organic moiety, an amino acid, a peptide, an ether, a thioether, a carbonate, a carbamate, an optionally substituted alkyl group, an optionally substituted alkenyl group, an optionally substituted alkynyl group, a monosaccharide, an oligosaccharide or a polymer, provided  $R^{18}$  or  $R^{19}$  is  $-OR^{PR}$ ,  $-SR^{PR}$ ,  $-N(R^{PR})_2$ ,  $=O$ ,  $=S$ ,  $=NOH$ , an ester,  $-NH-C(O)-C1-50$  organic moiety, an amino acid, a peptide, an ether, a thioether, a carbonate, a carbamate, ~~a monosaccharide, an oligosaccharide or a polymer,~~ a monosaccharide or an oligosaccharide; and



$R^{24}$  and  $R^{25}$  independently are -H, ester, ether or  $R^{25}$  is -H or optionally substituted alkyl.

Claim 57. (currently amended): The method of claim 56, wherein the  
 5 androgen responsive disease is ~~selected from the group consisting of breast cancer, alopecia, acne, hypogonadism and hirsutism~~ androgen responsive prostate cancer.

Claim 58. (currently amended): The method of claim 57 wherein the  
 10 compound has the structure



Claim 59. (currently amended): The method of claim 58 wherein

15 (a)  $R^{18}$  is ~~-OH, -O-C(O)-CH<sub>3</sub>, -O-C(O)-CH<sub>2</sub>CH<sub>3</sub>, -OH, -O-C(O)-CH<sub>3</sub> or -O-C(O)-CH<sub>2</sub>CH<sub>3</sub>~~ and  $R^{19}$  is -H, -C $\equiv$ CH or -C $\equiv$ CCH<sub>3</sub>, or  $R^{18}$  and  $R^{19}$  together are =O, =S or =NOH, or

(b)  $R^{18}$  is -H,  $-C\equiv CH$  or  $-C\equiv CCH_3$  and  $R^{19}$  is -OH,  $-O-C(O)-CH_3$ ,  $-O-C(O)-CH_2CH_3$ .

Claim 60 (canceled).

5

Claim 61. (currently amended): The method of ~~claim 60~~ wherein claim 59 wherein  $R^{12}$  and  $R^{13}$  independently or together are -H, -OH, -SH,  $-NH_2$ ,  $=CH_2$ ,  $=CHCH_3$ ,  $=NOH$ ,  $=NOC(O)CH_3$ ,  $=O$  or  $=S$ .

10

Claim 62 (canceled).

Claim 63. (currently amended): The method of ~~claim 62~~ wherein claim 59 wherein  $R^{16}$  and  $R^{17}$  independently or together are -H, -OH, -SH,  $=O$ ,  $=S$ ,  $-O-C(O)-CH_3$  or  $-O-C(O)-OCH_3$ .

15

Claim 64 (currently amended): The method of ~~claim 63~~ wherein  $R^5$  and  $R^6$  independently or together are ~~H, OH, SH,  $=O$ ,  $=S$ ,  $-O-C(O)-CH_3$  or  $-O-C(O)-OCH_3$~~  claim 59 wherein  $R^5$  or  $R^6$  is -H,  $-CCH_3$ ,  $-CH_3$  or  $-C_2H_5$ .

20

Claim 65 (currently amended): The method of claim 64 wherein  $R^{24}$  is  ~~$CH_3$ ,  $-CH_2OH$ ,  $-CH_2OC(O)CH_3$ ,  $-OC(O)CH_3$  or  $-CH_2OC(O)OCH_3$~~  and  $R^{25}$  is -H,  $-CH_3$ ,  $-CH_2OH$ ,  $-CH_2OC(O)CH_3$ ,  $-OC(O)CH_3$  or  $-CH_2OC(O)OCH_3$ .

Claim 66 (canceled).

25

Claim 67. (currently amended): The method of ~~claim 66~~ wherein  $R^{24}$  and  $R^{25}$  are  ~~$CH_3$~~  claim 65 wherein  $R^{25}$  is  $-CH_3$ .

Claim 68. (currently amended): The method of claim 67 wherein a double  
30 bond is present at the 1-2 and 5-6 positions and  $R^{24}$  and  $R^{25}$  are both  $-CH_3$ .

Claim 69. (currently amended): The method of claim 67 wherein a double bond is present at the 5-6 position and ~~R<sup>24</sup> and R<sup>25</sup> are both CH<sub>3</sub>.~~